

KOOTENAI DEVELOPMENT IMPOUNDMENT DAM

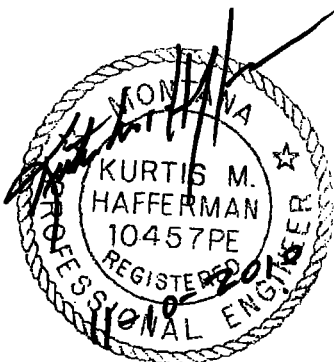
**OCTOBER 2010 ROUTINE OWNERS INSPECTION AND
PIEZOMETER VIDEO CAMERA INSPECTION**

Prepared for: The Remedium Group

Prepared by: Kurt Hafferman, P.E.

BILLMAYER & HAFFERMAN INC.
2191 3rd Avenue East
Kalispell, Montana 59903

Inspection Date: October 29th, 2010
Report Date: November 3rd, 2010



INSPECTION DATE:

October 29th, 2010

REPORT DATE:

November 3, 2010

REFERENCE:

**October 2010 Routine Owners Inspection and
Piezometer Video Camera Inspection**

OBJECTIVES

The end of October 2010 routine owner's inspection was conducted on Monday August 23rd, 2010. Personnel included Kurt Hafferman, P.E. and Dan Nelson from BHI and Jeremy Peterson from Chapman Construction.

The inspection was originally planned as a routine owner's inspection. In addition, the inspection was to be combined with a video camera inspection of the piezometers as discussed in the Piezometer Video Camera Inspection below. Due to a persistent and steady rain during the day, the Piezometer Video Camera Inspection was conducted first and the Routine Owners inspection was abbreviated to include reading the piezometers, inspecting the embankment, and checking the drain flows. Due to the inclement weather and worker safety in the rain, no inflow, box culvert, spillway, outflow or seepage monitoring was completed.

Project tasks to be completed included:

1. Safety meeting with Chapman and BHI
2. Video camera inspection of piezometers
3. Read piezometer water levels
4. Inspect the embankment dam
5. Inspect outside and inside of drains
6. Obtain As-built information on LRC-01 Flume
7. Decontaminate and depart site

RESULTS

The routine owner's inspection began at 9:00 a.m. and ran until 12:30 p.m. The weather was cloudy, with moderate to steady rainfall and there was rain overnight. The temperature at the start of the day was approximately 40°F and was 50°F at mid day. There were minimal photographs taken due to the inclement weather and the limited inspection. Copies of photographs from the date of the inspection are included in Appendix 1.

Copies of the Routine Owners Inspection Report as filled out after the inspection and copies of the field notes are provided in Appendix 2. The following are the results of each of the seven (7) tasks above;

1. Safety Meeting: Jeremy Peterson was assigned as the health and safety officer and was responsible for equipment condition, decontamination procedures, and over all KDID site safety. The safety meeting included discussion of the work tasks, video camera operation and care, and procedures for the day. Equipment was checked and no issues were found. Standard equipment was used which includes double Tyvek suits, rubber booties, double vinyl gloves, and North® full

- face mask. Booties are taped at the top and Tyvek suits are taped at the zipper on the outer suit.
2. Video Camera Inspection, see description below
 3. The piezometer readings were carefully made by Kurt Hafferman.
 4. A quick inspection of the embankment was conducted and no anomalies or changes were noted.
 5. Drains were inspected. All drains were normal. Overall, the flow in the drains and stream channel below the drains has again decreased from last month, which was expected. All flows were clear and steady.
 6. As-Built measurements were recorded on the LRC-01 Flume. Repairs made to the flume during the September Routine Owners Inspection have modified the original flume design and flow calculations. As such a new flow chart must be calculated to use with the modified design.
 7. Decontamination was conducted at the amphitheater using the 500 gallon tank and the Chapman pressure washing equipment. Decontamination took a little longer due to a malfunction of the pressure washer but was eventually completed and we departed the site at 12:30 p.m.

As the readings from all of the inflow and outflow streams, including the flumes, weirs, and reservoir levels were not taken, no flow measurement tables or updates will be provided this month.

DISCUSSION

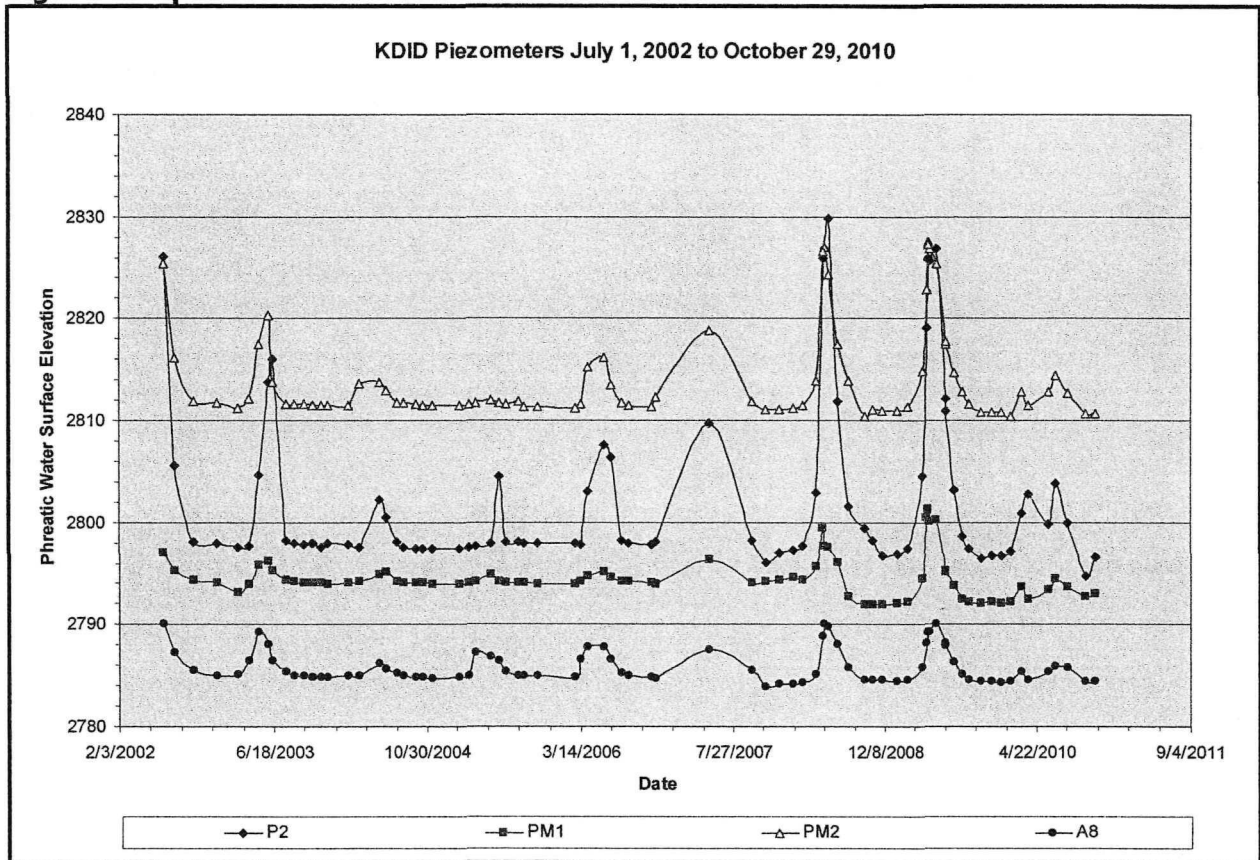
The weather did not improve as anticipated when this month's inspection was scheduled. There has been accumulative rainfall in the past week and the rain continued the day of this month's inspection. This was the first inspection undertaken during intense rainy weather since BHI took over inspections on 2007. It was hoped that the Tyvek suits would provide some rain protection but they did not. Given the site conditions, safety of personnel, and the inefficiency of working in saturated protective suits due to wet conditions, it was determined that a minimal inspection would be conducted beyond the piezometer inspection. A discussion of the piezometer inspection is included below.

In general, drain outflows are stable and as expected there appeared to be a decrease in flows out of the drains. All flows observed were clear and steady. Due to weather limitations, no flow readings were recorded and as such, visual comparisons were used. The precipitation in this area as of October 30, 2010 is 48% of normal at the Banfield Mountain site which is just northwest of the project. There has been 1.1 inches of precipitation recorded in the last month. The new water year began on October 1st. Records of the previous water year, which ended September 30th showed the year ended at 83% of normal. The year is still dryer than normal which shows in the reservoir levels recorded this year.

Drain 6, the main drain at the toe, appears to show a decrease in flow over the last month. With drier conditions overall this year, flows have been slower than normal and as the reservoir has drained to low to below normal levels, we are seeing the typical low flows for this time of the year. There are no anomalies to report from this month's inspection.

The piezometer data has been updated to reflect the measurements recorded during the inspection. In addition to water level checks made monthly, careful observation was made to the bottom of each piezometer to aide in our investigation of possible elevation variations at the base of the dam and the depths were recorded. The depths recorded were visually checked when possible with the 400 foot camera during the video investigation of each piezometer. See the detailed investigation summary later in the report for findings and background information leading to the collection of this additional data. New data sheets and newly updated graphs are attached to this report in Appendix 3. A copy of the updated piezometer graph is shown in Figure 1 below;

Figure 1: Updated Piezometer Plots



The graph above shows the rise that occurred in late April which was followed by a decline in May and then another rise in late June. As expected we see the continual decline in levels through the end of the water year. This graph shows that highest phreatic water surface in the piezometers only rose to the levels such as those seen in 2003 or 2004.

In last months report, we pointed out the unusually low water reading taken at Piezometer P2. This finding prompted review of past measurements and the videoing of all Piezometers during this month's inspection. As we can see in the above graph, the water level was measured and shows a typical value for this time

of year. The findings of the video investigation are discussed later in this report. In regards to last month's measurement, we attribute the reading to operator error. To prevent future errors of this kind, Kurt Hafferman, P.E. of BHI will now be in charge of obtaining piezometer readings.

HAZWOPER UPDATES

We continue to conduct safety meetings at the beginning of each inspection. All personnel have current 8-hour certifications, equipment is in good condition, and we have no personnel issues.

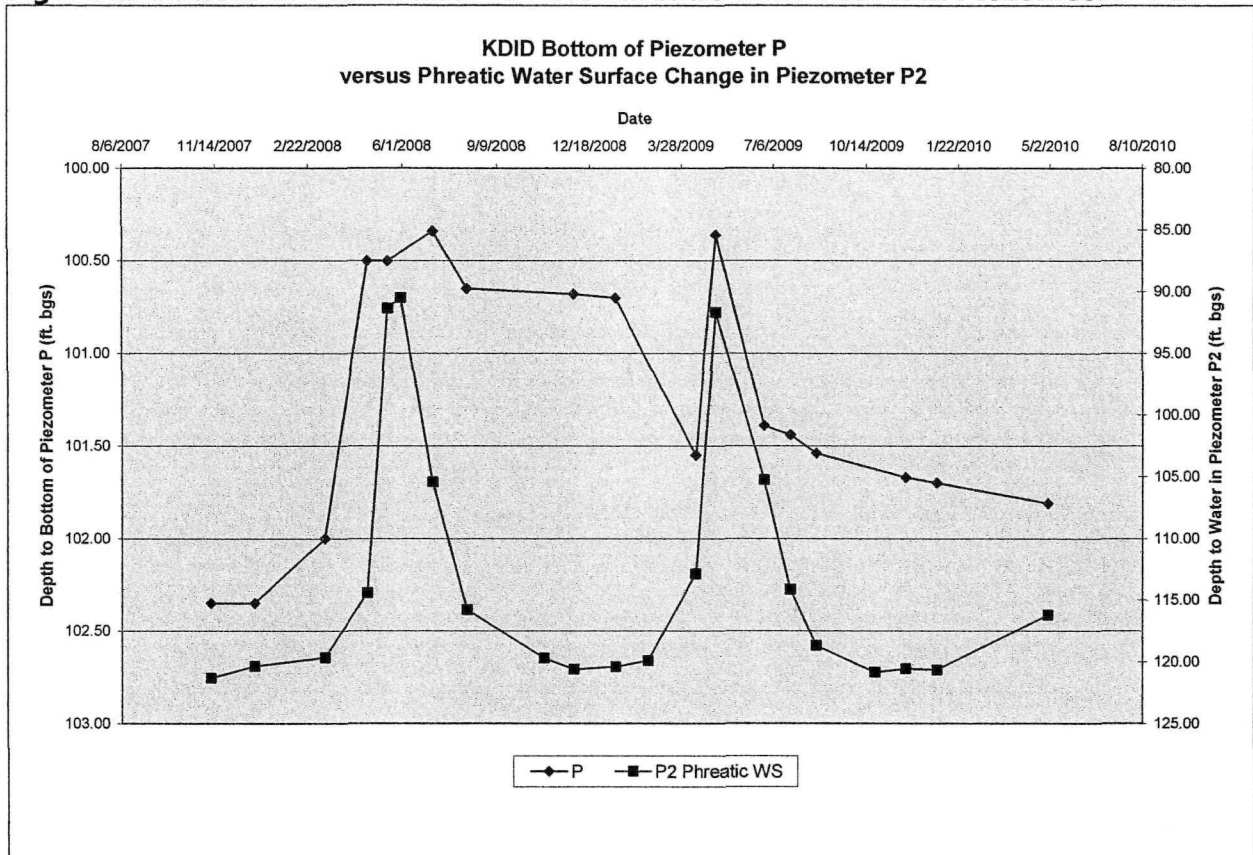
The 4x4 and all the equipment was washed with water from a pressure washer and 500 gallon water tank supplied by Chapman Construction. The pump on the pressure washer malfunctioned repeatedly and required checking hose connections, and cleaning pressure nozzles intermittently throughout equipment decontamination. Jeremy indicated that the pressure washer had been used last winter and may have frozen. There is a second pressure washer at the support trailer available for use if needed. To prevent future decontamination issues, it should be verified that a pressure washer in good working order is onsite and ready to use. Outside Tyvek suits and booties were removed at the contamination reduction area and we proceeded to the support trailer to complete the decontamination and depart.

PIEZOMETER VIDEO CAMERA INSPECTION BACKGROUND

During the September routine owner's inspection it was noted that the water level of piezometer P2 was lower than the previously recorded bottom of the piezometer. In reviewing past records it was also determined that the bottom of piezometer P had dropped approximately 0.5 ft. since the spring 2009 measurement. Piezometer P is on top of the dam, the furthest to the right when looking downstream, and has always been a dry piezometer.

BHI staff verified the bottom of piezometer measurements taken since BHI started readings in August of 2007 and were surprised to learn that the measurement data showed that the bottom of the piezometers have changed and may have varied as much as 2 ft. We then plotted the measured bottom of piezometer P with the phreatic water surface that we measured in piezometer P2, which is the closest wet piezometer to P, and found that there is an annual change in the bottom elevation with somewhat regular fluctuations each year that seem to mimic the rise in phreatic water surface each year. The plot is shown in Figure 2 below.

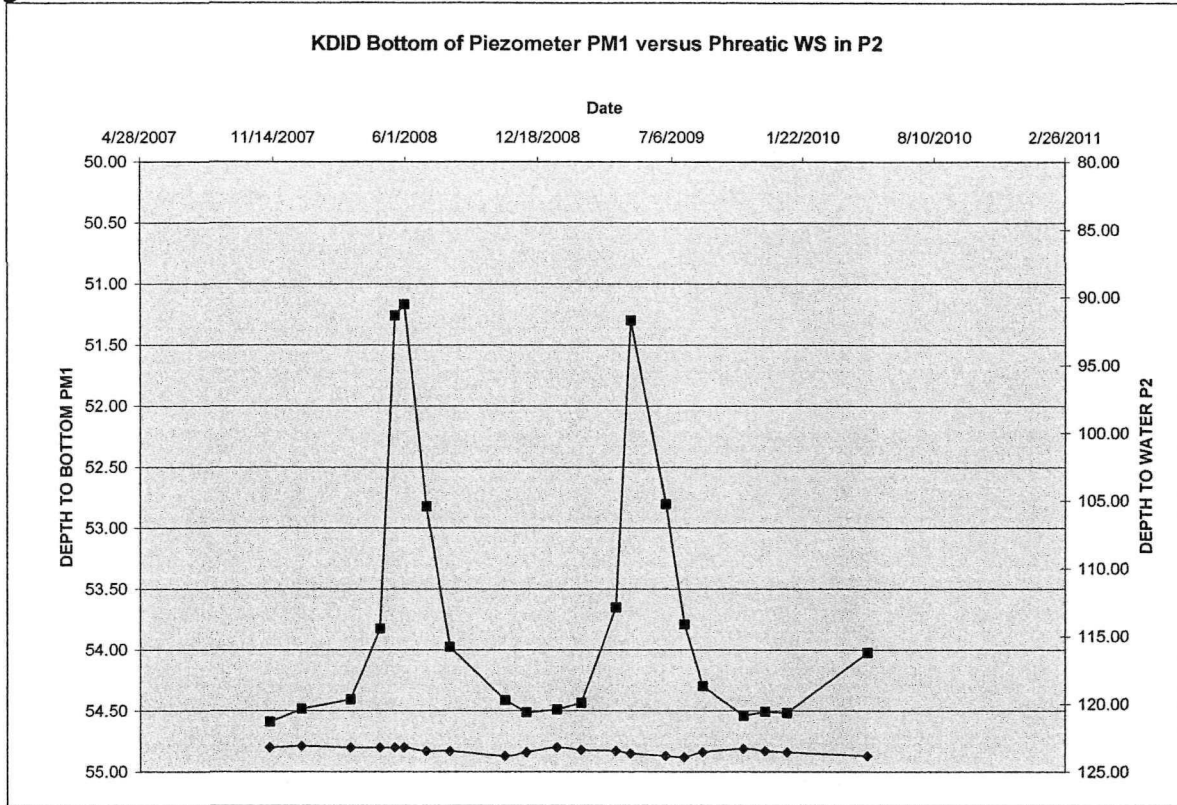
Figure 2: Bottom of Piezometer "P" vs. Phreatic Water Level in Piezometer "P2"



It should be noted that BHI has never heard of nor experienced an incident where the bottom of a piezometer changed over time. We also contacted the Montana Dam Safety program and they also stated that they had never experienced a change in the bottom of any piezometers, wet or dry. We have always assumed that the piezometer bottoms have never changed.

As reading the piezometers was typically assigned to Jeff Robertson, formerly of Chapman Construction, we reviewed the records for the bottoms of all piezometers to make observations and possible causes of error. We found that the bottom changed in some piezometers while others were unchanged. It was therefore assumed, because the readings at each individual piezometer were consistent in that they were either changed or unchanged, that operator error should not be considered a factor at this time. The plot of the bottom of piezometer PM1 versus the phreatic water surface change in piezometer P2 shown in Figure 3 below demonstrates that the measured bottom was consistent and that the bottom did not change with a change in phreatic water surface.

Figure 3: Bottom of Piezometer "PM1 vs. Phreatic Water Level in Piezometer "P2"



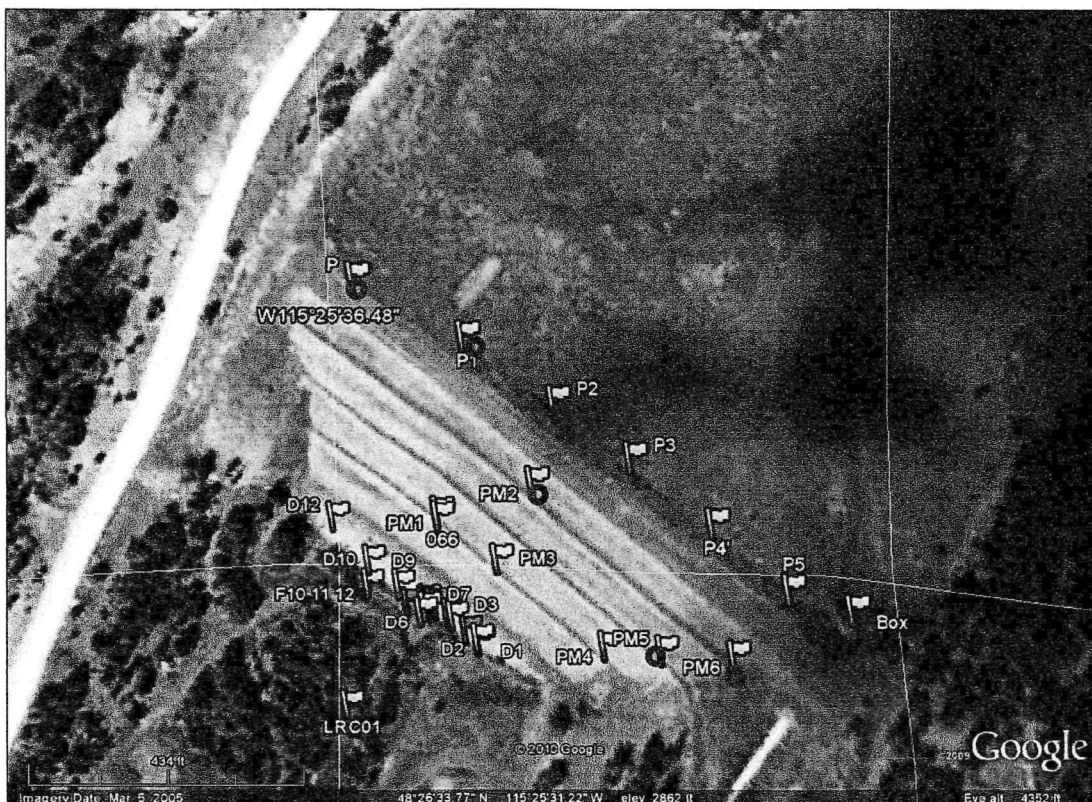
A table of the depth to bottom of piezometer showing those that have changed, the maximum variation and those that are unchanged is shown in Table 1 below.

Table 1: Changed Piezometers with maximum change and unchanged Piezometers

Changed Piezometers	Maximum Change (ft.)	Unchanged Piezometers
P	2.10	P3
P1	1.4	P4
P2	2.05	P5
PM2	1.84	PM1
PM5	1.5	PM3
PM6	1.1	PM4

When we looked at the location of the changed versus unchanged piezometer bottoms we found that there was no consistent pattern where the changes occurred and it was not consistent between the wet piezometers and dry piezometers. The piezometers that have had changes to the bottom elevations are shown in Figure 4 below as the blue circles. As you can see, there is no clear pattern based on location.

Figure 4: Aerial view of Piezometer locations highlighting changing Piezometers



Review of the record data and conversations with dam safety experts all indicate further investigation is required to adequately quantify and report the condition of the piezometers and any correlation that might exist as to the integrity of the dam. To further investigate this anomaly, it was proposed that a video camera be taken onsite to visually observe the condition of the piezometers and report any findings from the exploration.

PIEZOMETER VIDEO CAMERA INSPECTION

Upon acceptance by the Owners that further investigation was necessary, plans were made to inspect the piezometers as part of the monthly dam inspection. The equipment was prepared and checked to be in good working order. Due to the depths of the piezometers, the 400 foot cable camera would be used to make the observations. The television was wrapped and sealed in 6 mil. plastic to allow for proper decontamination procedures and protect from damage and weather. The Batteries were charged and it was verified with Chapman that the well probe was still at the job trailer.

Investigations began at piezometer "P" at the left abutment of the upstream bank of the embankment dam when looking upstream. The well probe was first used to get a depth to the bottom of the piezometer and water level where encountered. Readings were recorded and the video camera was fed down each piezometer to visually observe conditions at the bottom of the piezometer. Video was recorded to

tape and probe readings were checked by watching the bottom of the hole as the probe was lowered to the bottom of the piezometer. See Table 2 below or a list of piezometers with video data.

Table 2: Piezometer Video data

Piezometer	Video data and Description
P	Screws in Casing – No data
P1	Video – Casing broke approx. 20 feet below surface (possible heaving?)
P2	Video – Rock encroaching near bottom
P3	Video
P4	Video
P5	Video
PM1	Video – No visibility below water level
PM2	Screws in casing – No data
PM3	Video
PM4	Screws in Casing – No data
PM5	Video
PM6	Video – Piece of lumber at bottom
A8	Camera too big for Casing – No Data

PIEZOMETER VIDEO CAMERA INSPECTION RESULTS

Review of the video data collected revealed no significant issues with the bottoms of the piezometers observed. The bottoms appeared firm and stable with no visual indicators of failure. As you can see in the table above, piezometers P, PM2, and PM4 were not videoed due to screws through the casing. The screws occurred between 3 and 7 feet below ground surface and restricted the size of the pipe enough that the camera could not be fed past them. Piezometer A8 was not videoed as the casing was only 1.5 inches in diameter and the camera would not fit down it.

Piezometer P1 showed that the casing was broken approximately 20 feet below ground surface. As can be seen on the video, this break has collapsed onto itself roughly 2 inches. While this data mainly shows the condition of the piezometer, in order for the break to move together either the bottom of the piezometer pushed up or the top section moved down. There is no clear evidence to which occurred but it shall be noted herein that it has occurred. Video footage obtained in piezometer P2 revealed a large rock encroaching into the pipe near the bottom of the hole. The camera was not able to maneuver past this point, but it appeared to be roughly 1 foot above the bottom of the hole. Video revealed a possible separation of casing midway down piezometer P3. The speed of the camera through this section did not allow thorough visualization of the separation and is again more a statement of condition than a problem similar to piezometer P1. Review of measurements in this piezometer did not reveal significant variations that would indicate movement is taking place. Review of piezometer P5 revealed heavy sedimentation on the sidewalls of the pipe on roughly the lower 50 feet of the hole. This is assumed to be caused by pinholes in the pipe and does not

indicate a significant issue. If anything, this sediment would tend to fill the bottom of the pipe, not lower it.

Review of piezometer PM1 showed no anomalies to the depth videoed but it shall be noted that visibility below the water level did not allow observation of the bottom of the pipe. As this piezometer is considered stable, there is not an issue anticipated. Video footage obtained in piezometer PM6 showed a piece of lumber standing vertical in the bottom of the pipe. This piece of lumber would have been dropped down the piezometer at some time during construction or monitoring of the piezometer. The camera was unable to maneuver past this obstruction, but the apparent bottom of hole is visible from the top of the lumber. It is odd to see an object of this type at the bottom of the piezometer and there could be many reasons for it, but other than the probe getting caught on it during measurement, it poses no threat.

Of the piezometers showing variations in measurement, piezometers P and PM2 could not be videoed due to obstructions in the pipe. P1 showed a broken casing that has collapsed onto itself either from the upper section of pipe dropping or the lower portion pushing up. While some movement may have occurred there was not a 1.4 foot shift in the pipe. P2 and PM6 showed obstructions at the bottom of the pipes that could influence readings if the probe landed on them. Of the piezometers that data was obtained from, only PM5 showed no obvious defects in the pipe or obstructions at the bottom that could influence monthly readings. Upon further review of graphs it was determined that readings showing fluctuations were actually misreported readings from PM3 recorded to the wrong piezometer. Review of PM3 data show that on the same days, the readings matched expected PM5 readings. As such these two piezometers are considered stable.

CONCLUSION

Based on observations of video footage and field findings, the variations found in review of record data other than piezometer P, P2, and PM2 can either be contributed to obstructions in the pipe or operator error. Even though a rock was found at the bottom of P2, the readings do not follow a pattern that would suggest the rock is the cause of the errant readings. As P and PM2 could not be videoed at this time, no solid conclusions can be drawn as to reading variations at this time. It is the opinion of Billmayer & Hafferman Inc. that at this time, there are no significant findings at the bottoms of the piezometers that would raise a red flag indicating major problems at the bottom of the dam. We will continue to gather monthly readings at the bottom of piezometers to monitor for variations that may occur. To eliminate the question of operator error, Kurt Hafferman, P.E. of BHI will be responsible for all future piezometer readings taken onsite so that one person continually makes the readings. BHI may, at a future date, video piezometers P and PM2 if anomalies continue to show up during monthly monitoring.

No significant anomalies or changes were noted.

All elements inspected show no issue or concerns this month that have not already been addressed. Inflows and reservoir levels were low to very low this year. The lag time between inflows, phreatic water surface and outflows appear to be

influenced mostly by drain 6 capacity although we suspect there is some storage/routing capacity in the embankment.

RECOMMENDATIONS

None at this time

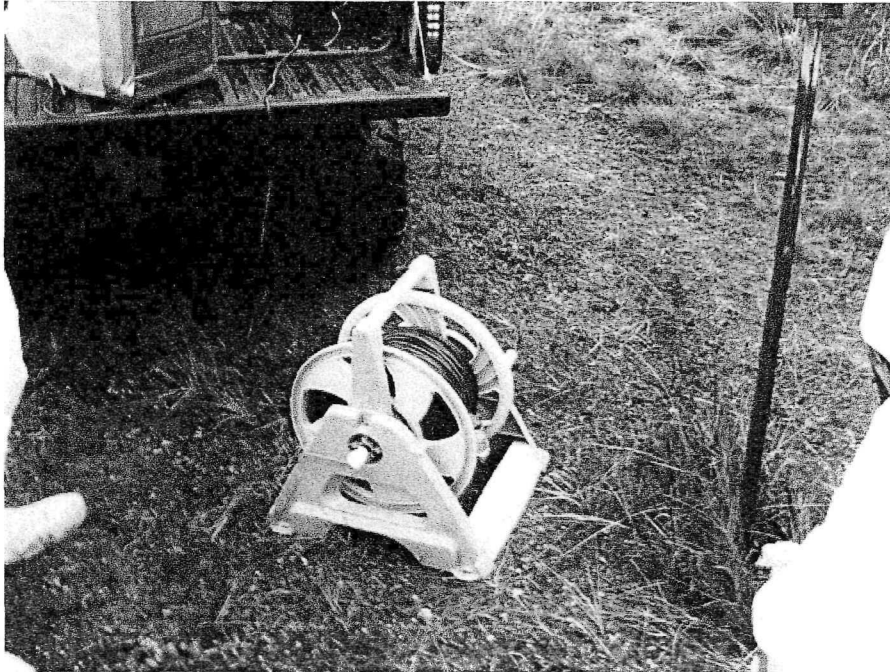
APPENDIX 1
SITE PHOTOGRAPHS



BILLMAYER & HAFFERMAN, INC.

October 29th, 2010

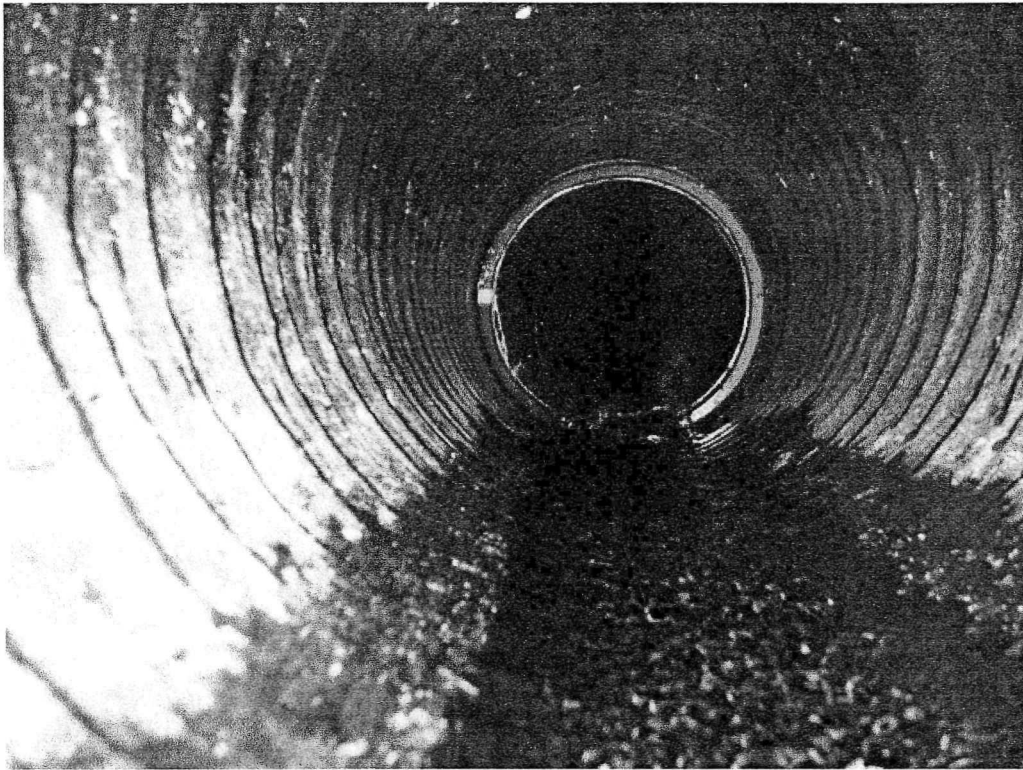
Kootenai Impoundment Dam Monthly Inspection Photo Log



400 ft Camera on reel with TV



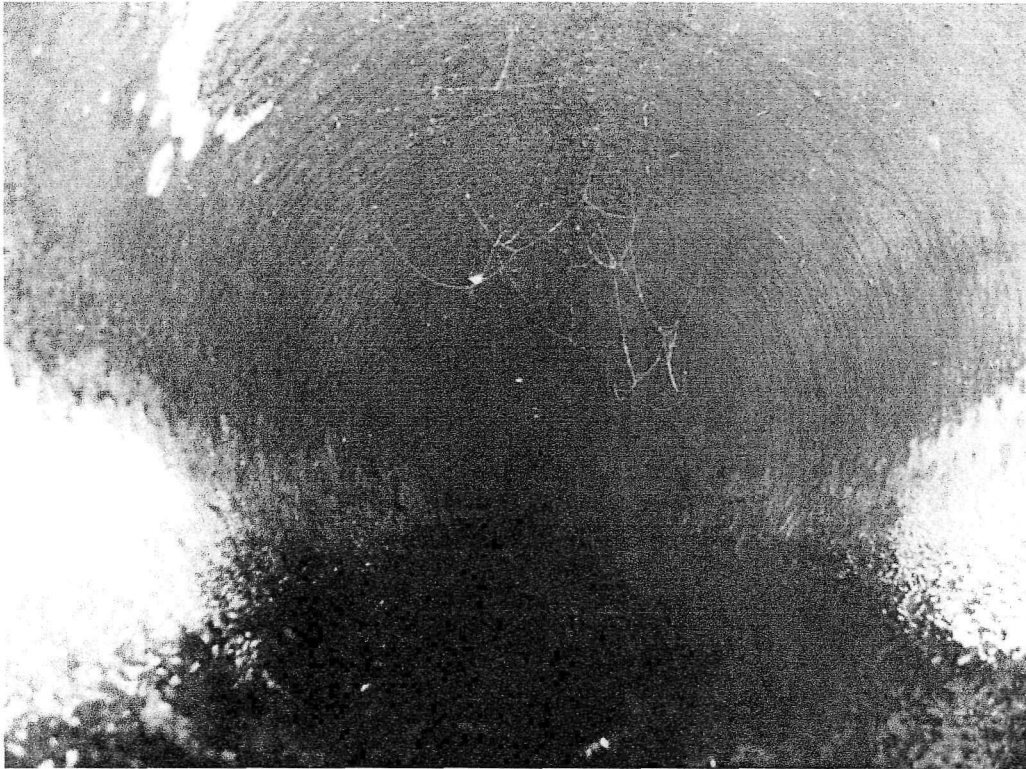
Toe Drain 3



Inside Toe Drain 3



Inside Toe Drain 4



Inside Toe Drain 6



Toe Drain 7



Inside Toe Drain 8



Toe Drain 9



Toe Drain 11 and 10



Toe Drain 12



Inside Toe Drain 12

APPENDIX 2

PERIODIC INSPECTION REPORT & FIELD NOTES

PRINCIPAL ENGINEER ON SITE: Kurt Hafferman			OBSERVATION DATE (S)		29-Oct-10		
OTHER PERSONNEL ON SITE: Dan Nelson of Billmayer and Hafferman and Jeremy Peterson from Chapman Const.			WEATHER CONDITIONS		cloudy, raining, cool ~40° to 50°F significant rain last week .		
Work Tasks: Measure piezometers, video piezometers, check drains, as-built measurements on LRC01			EQUIPMENT		Well probe, 400 ft video camera, tv, bateries, long fiberglass tape, camera, flashlight, misc. field equip.		
AREA INSPECTED	EMBANKMENT			CHECK ACTION NEEDED			
	ITEM NO.	CONDITION	OBSERVATION	MONITOR	INVESTIGATE	REPAIR	OTHER
CREST	1	GENERAL SURFACE CONDITION	Good, no change				
	2	DISPLACEMENTS	None				
	3	EROSION	None				
	4	CREST ALIGNMENT	Good, no change				
	5	WEEDS OR BRUSH	No change				
	6	ANIMAL BURROWS	No change, minor				
	7	EARTHEN EMERGENCY SPILLWAY	Good, no change				
	8						
	9						
UPSTREAM FACE	10	SLIDES, DISPLACEMENT OR BUDGES	None				
	11	EROSION	None				
	12	WEEDS OR BRUSH	None				
	13	PIEZOMETER CASINGS	Good, no change				
	14	ABUTMENT CONTACTS	Good, no change				
	15	ANIMALS BURROWS	No change				
	16	DISTANCE TO WATER	~800 ft. reservoir at typical low level				
	17						
	18						
	19						
ADDITIONAL COMMENTS, REFER TO ITEM NO. IF APPLICABLE							

KOOTENAI DEVELOPMENT IMPOUNDMENT DAM ROUTINE OWNERS INSPECTION REPORT

PRINCIPAL ENGINEER ON SITE: Kurt Hafferman	OBSERVATION DATE (S)	29-Oct-10
OTHER PERSONNEL ON SITE: Dan Nelson of Billmayer and Hafferman and Jeremy Peterson from Chapman Const.	WEATHER CONDITIONS	cloudy, raining, cool ~40° to 50°F significant rain last week .
Work Tasks: Measure piezometers, video piezometers, check drains, as-built measurements on LRC01	EQUIPMENT	Well probe, 400 ft video camera, tv, bateries, long fiberglass tape, camera, flashlight, misc. field equip.

AREA INSPECTED	DOWNSTREAM AND INSTRUMENTATION			CHECK ACTION NEEDED			
	ITEM NO.	CONDITION	OBSERVATION	MONITOR	INVESTIGATE	REPAIR	OTHER
DOWNSTREAM SLOPE	20	GENERAL SURFACE CONDITION	Good no change				
	21	DISPLACEMENTS	None				
	22	EROSION	None				
	23	LIFT ALIGNMENTS	Good				
	24	WEEDS OR BRUSH	No change				
	25	ANIMALS BURROWS	No change				
	26	EARTHEN EMERGENCY SPILLWAY	Good, no change				
	27	SEEPAGE	None				
INSTRUMENTATION	28	ABUTMENT CONTACTS	Good, no change				
	29	PIEZOMETERS	Measured, see attached measurements	X			
	30	WEIRS	Not read due to weather	X			
	31	FLUMES	Not read due to weather	X			
	32	RESERVOIR LEVELS	Not read due to weather	X			
	33	RAINY CREEK INFLOW MEASUREMENTS @ URC02	Not read due to weather	X			
	34	RAINY CREEK OUTFLOW BELOW DAM @ LRC01	Not read due to weather	X			
	35	STREAM OUTFLOW BELOW MILL POND @LRC02	Not read due to weather	X			
	36	STREAM OUTFLOW FROM CARNEY CREEK @CC02	Not read due to weather	X			
	37	STREAM OUTFLOW FROM RAINY CREEK @LRC06	Not read due to weather	X			
	38	FLUME 1-2-3-4	Not read due to weather	X			

ADDITIONAL COMMENTS REFER TO ITEM NO. IF APPLICABLE

KOOTENAI DEVELOPMENT IMPOUNDMENT DAM ROUTINE OWNERS INSPECTION REPORT

PRINCIPAL ENGINEER ON SITE: Kurt Hafferman	OBSERVATION DATE (S)	29-Oct-10
OTHER PERSONNEL ON SITE: Dan Nelson of Billmayer and Hafferman and Jeremy Peterson from Chapman Const.	WEATHER CONDITIONS	cloudy, raining, cool ~40° to 50°F significant rain last week.
Work Tasks: Measure piezometers, video piezometers, check drains, as-built measurements on LRC01	EQUIPMENT	Well probe, 400 ft video camera, tv, bateries, long fiberglass tape, camera, flashlight, misc. field equip.

AREA INSPECTED	INSTRUMENTATION (CONT.) AND DOWNSTREAM TOE AREA			CHECK ACTION NEEDED			
	ITEM NO.	CONDITION	OBSERVATION	MONITOR	INVESTIGATE	REPAIR	OTHER
INSTRUMENTATION (CONT.)	39	FLUME 10-11-12	Removed, no longer used				
	40	FLUME 7-8	Not read due to weather	X			
	41	WEIR 5	Not read due to weather	X			
	42	WEIR 12	Not read due to weather	X			
	43	DRAIN 6	Not read due to weather	X			
	44	SPILLWAY FLOW	None this year	X			
	45	F-Seep	dropped	X			
	46						
	47						
DOWNSTREAM TOE	48	ABUTMENTS	Good, no change				
	49	SEEPAGE NEAR TOE	None noted this year				
	50	SEEPAGE DOWNSTREAM OF TOE, LEFT SIDE	Not read due to weather	X	X		
	51	SEEPAGE IN STREAM CHANNEL, LEFT SIDE	Not read due to weather				
	52	VEGETATION	More growth in channel and around drains. See below				
	53	CULVERT AT LOWER ROAD	Not monitored				
	54						
	55						
	56						

ADDITIONAL COMMENTS, REFER TO ITEM NO. IF APPLICABLE

Downstream Toe 52: The vegetation has already started to grow in near the toe drains this year. The additional growth is attributed to the heavy rains in late April and all of May, not to a change in the water at the toe. Weed cutting will be planned.

KOOTENAI DEVELOPMENT IMPOUNDMENT DAM ROUTINE OWNERS INSPECTION REPORT

PRINCIPAL ENGINEER ON SITE: Kurt Hafferman

OBSERVATION DATE (S)

29-Oct-10

OTHER PERSONNEL ON SITE: Dan Nelson of Billmayer and Hafferman and Jeremy Peterson from Chapman Const.

WEATHER CONDITIONS

cloudy, raining, cool ~40° to 50°F
significant rain last week.

Work Tasks: Measure piezometers, video piezometers, check drains, as-built measurements on LRC01

EQUIPMENT

Well probe, 400 ft video camera, tv, batteries, long fiberglass tape, camera, flashlight, misc. field equip.

AREA INSPECTED	SPILLWAYS			CHECK ACTION NEEDED			
	ITEM NO.	CONDITION	OBSERVATION	MONITOR	INVESTIGATE	REPAIR	OTHER
PRINCIPAL SPILLWAY (BOX CULVERT AND OPEN CHANNEL CHUTE SPILLWAY)	58	ENTRANCE CONDITION	Not observed due to weather				
	59	CENTERLINE CRACK FLOOR	Not observed due to weather	X			
	60	CENTERLINE CRACK CEILING	Not observed due to weather	X	X		
	61	TRANSVERSE JOINTS	Not observed due to weather				
	62	GENERAL CONCRETE	Not observed due to weather				
	63	SEEPAGE OR WATER	Not observed due to weather	X			
	64	OPEN CHANNEL CONCRETE	Not observed due to weather				
	65	OPEN CHANNEL JOINTS	Not observed due to weather				
	66	OPEN CHANNEL GENERAL	Not observed due to weather				
OPEN CHANNEL STEEP CHUTE SPILLWAY	67	JOINTS	Not observed due to weather				
	68	WALL CONCRETE	Not observed due to weather				
	69	FLOOR CONCRETE	Not observed due to weather				
	70	WALL TOPS	Not observed due to weather				
	71	WEEDS ALONG WALLS	Not observed due to weather				
	72	STILLING BASIN RIPRAP	Good				
	73	WEED AND BRUSH IN STILLING BASIN	Some growth				
	74						
	75						
	76						

ADDITIONAL COMMENTS, REFER TO ITEM NO. IF APPLICABLE

KOOTENAI DEVELOPMENT IMPOUNDMENT DAM ROUTINE OWNERS INSPECTION REPORT

PRINCIPAL ENGINEER ON SITE: Kurt Hafferman	OBSERVATION DATE (S)	29-Oct-10
OTHER PERSONNEL ON SITE: Dan Nelson of Billmayer and Hafferman and Jeremy Peterson from Chapman Const.	WEATHER CONDITIONS	cloudy, raining, cool ~40° to 50°F significant rain last week.
Work Tasks: Measure piezometers, video piezometers, check drains, as-built measurements on LRC01	EQUIPMENT	Well probe, 400 ft video camera, tv, bateries, long fiberglass tape, camera, flashlight, misc. field equip.

AREA INSPECTED	RESERVOIR AND UPSTREAM DRAINAGE BASIN			CHECK ACTION NEEDED			
	ITEM NO.	CONDITION	OBSERVATION	MONITOR	INVESTIGATE	REPAIR	OTHER
RESERVOIR	77	LEFT SIDE (TAILINGS SLOPE)	Stable				
	78	RIGHT SIDE	Stable				
	79	RESERVOIR LEVEL	receding.	X			
	80	WETLANDS	Good, no change				
	81	UPPER POND	Not observed due to weather				
	82	DISTANCE FROM UPSTREAM SLOPE	~ 800 ft. typical low reservoir level	X			
	83						
	84						
	85						
UPSTREAM DRAINAGE BASIN	86	PRECIPITATION WY 2009-2010 AS OF DATE OF INSP.	Low, 48% of normal	X			
	87	RECENT RAINS	There was 1.1 inches of rain recorded for the month of October at Banfield Mountain northwest of the project	X			
	88	FIRE DANGER	None				
	89	CHANGES	None				
	90	VEGETATION	No change				
	91	RAINY CREEK DRAINAGE	Not observed due to weather				
	92	FLEETWOOD CREEK DRAINAGE	Not observed due to weather				
	93	MINE SITE	ER has ceased operations due to weather for the remainder of the year				
	94						
	95						

ADDITIONAL COMMENTS, REFER TO ITEM NO. IF APPLICABLE

KOOTENAI DEVELOPMENT IMPOUNDMENT DAM ROUTINE OWNERS INSPECTION REPORT

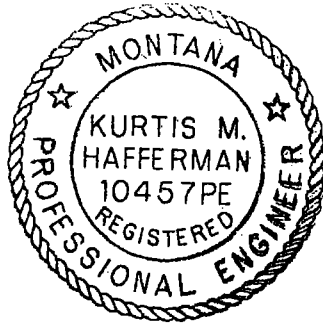
PRINCIPAL ENGINEER ON SITE: Kurt Hafferman	OBSERVATION DATE (S)	29-Oct-10
OTHER PERSONNEL ON SITE: Dan Nelson of Billmayer and Hafferman and Jeremy Peterson from Chapman Const.	WEATHER CONDITIONS	cloudy, raining, cool ~40° to 50°F significant rain last week .
Work Tasks: Measure piezometers, video piezometers, check drains, as-built measurements on LRC01	EQUIPMENT	Well probe, 400 ft video camera, tv, bateries, long fiberglass tape, camera, flashlight, misc. field equip.

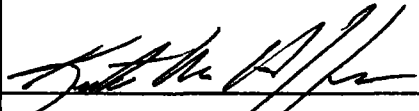
AREA INSPECTED	EARTHEN SPILLWAY AND MILL POND AND OTHER			CHECK ACTION NEEDED			
	ITEM NO.	CONDITION	OBSERVATION	MONITOR	INVESTIGATE	REPAIR	OTHER
EARTHEN SPILLWAY	96	LEFT SIDE NEXT TO CREST	Not observed due to weather				
	97	RIGHT SIDE	Not observed due to weather				
	98	RESERVOIR LEVEL	Low, minimum level				
	99	RIPRAP	Not observed due to weather				
	100	ROAD CONDITION	Good, no change				
	101	DOWNSTREAM SLOPE	Not observed due to weather				
	102						
	103						
MILL POND	104						
	105	CREST	Not observed due to weather				
	106	UPSTREAM FACE	Not observed due to weather				
	107	DOWNSTREAM FACE	Not observed due to weather				
	108	SPILLWAY FLOW	Not observed due to weather				
	109	RIPRAP IN SPILLWAY	Not observed due to weather				
	110	ANIMALS ON EMBANKMENT	Not observed due to weather	X			
	111	ANIMALS IN SPILLWAY	Not observed due to weather				
OTHER	112	RESERVOIR LEVEL	Low	X			
	113	Animals Monitoring	Same as last month, gophers on embankment	X			

ADDITIONAL COMMENTS, REFER TO ITEM NO. IF APPLICABLE

Engineers Certification and Seal

I declare that the data collection and completion of this report titled the September 2010 Routine Owners Inspection Report for the Kootenai Development Impoundment Dam, known as the subject property was completed under my direction. This assessment has revealed the conditions discussed in the inspection form in connection with the property. I declare that the statements made in this report are true to the best of my belief and professional knowledge.




Kurtis M. Hafferman, P.E.

MT PE 10457

11-10-2010

Date

23

XDID

Friday, October 29, 2010

Presented Video

Cat 4, rain to 45°F

on site

Video @ P

P

100.4'

dry

P1

103.5

dry

P2

120.68 WET

122.0 BOT

P3

60.5

dry

P4

106.15

dry

P5

104.30

dry

no video

vide

video

video

video

video

PM6 66.83 dry

PM2 104.48 wet? 104.95 bot

PM5 50.00 dry

PM4 4.15 dry

PM3 51.78 dry/no

PM1 52.92 54.85 bot

AB 8.30 28.20

video

~~video~~ 77 wet/dirt
screws
no

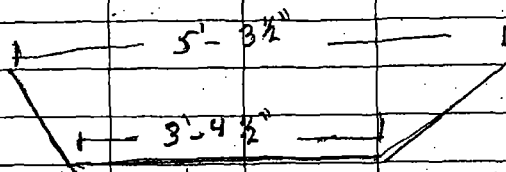
video

no video, screws

video

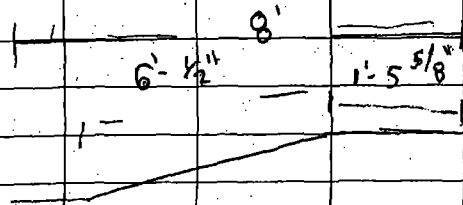
video

LRC-01 AB MEASUREMENTS



WATER DEPTH AT END OF FLUME = $4\frac{1}{2}$ "

TOP SECTION = $1\text{'}-5\frac{5}{8}$ "



END OF FLUME TO GUAGE = $6\text{'}-10\frac{1}{2}$ "

GH = 0.67

APPENDIX 3

UPDATED PIEZOMETER DATA AND GRAPHS

[illegible]

From S:\DOCUMENT\JOB FILES\Jobs\R\R_56_01\Documents\Annual Inspection\PIEZOMETERS

Billmayer & Hafferman Inc.

Kootenai Development Impoundment Dam Annual Inspection

3-Nov-10 Last Update

Hafferman

Bold = Interpolated values

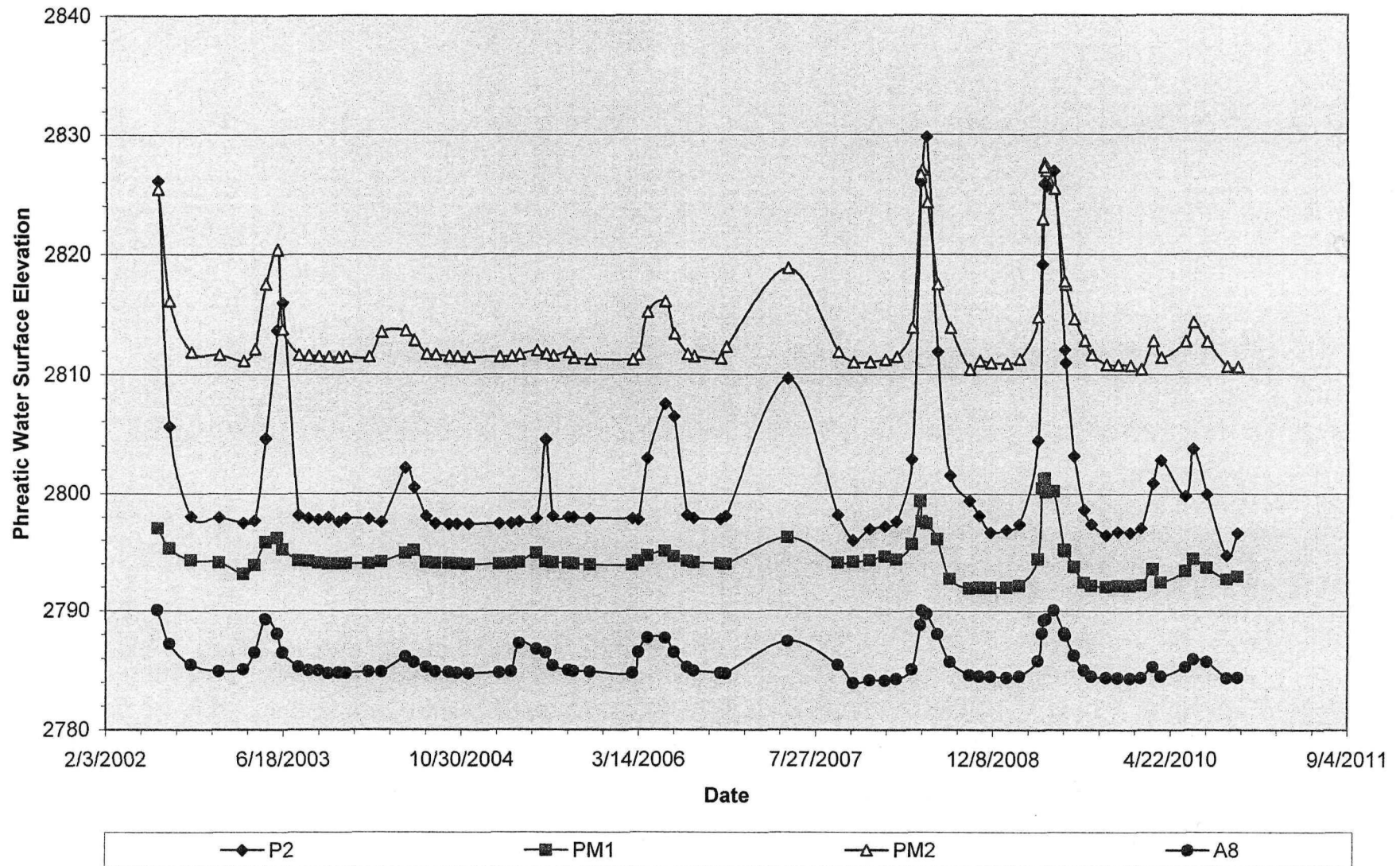
Wet Piezometer Plots

Piezometer Num P2 Elev.				PM1 Elev.			PM2 Elev.			A8 Elev.		
G.S.= 2917.321				G.S.= 2845.852			2915.04			G.S.= 2792.7		
Date	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev
10/29/2010	120.68	122	2796.641	52.92	54.85	2792.932	104.43	104.95	2810.61	8.3	28.2	2784.40
9/28/2010	122.6	122.1	2794.721	53.15	54.8	2792.702	104.4	104.6	2810.64	8.34	28.3	2784.36
8/2/2010	117.35	122.1	2799.971	52.15	54.8	2793.702	102.3	104.6	2812.74	6.96	28.3	2785.74
6/25/2010	113.52	122.1	2803.801	51.41	54.8	2794.442	100.67	104.6	2814.37	6.75	28.3	2785.95
6/3/2010	117.5	122.1	2799.821	52.44	54.8	2793.412	102.27	104.6	2812.77	7.4	28.3	2785.30
3/26/2010	114.49	122.1	2802.831	53.39	54.8	2792.462	103.62	104.6	2811.42	8.19	28.3	2784.51
3/3/2010	116.42	122.1	2800.901	52.25	54.8	2793.602	102.2	104.6	2812.84	7.37	28.3	2785.33
1/29/2010	120.24	122.1	2797.081	53.65	54.8	2792.202	104.6	104.6	2810.44	8.32	28.3	2784.38
12/29/2009	120.64	122.1	2796.681	53.74	54.8	2792.112	104.28	104.6	2810.76	8.37	28.3	2784.33
11/25/2009	120.56	122.1	2796.761	53.71	54.8	2792.142	104.25	104.6	2810.79	8.31	28.3	2784.39
10/23/2009	120.85	122.1	2796.471	53.81	54.8	2792.042	104.22	104.6	2810.82	8.3	28.3	2784.40
9/11/2009	119.91	122.1	2797.411	53.69	54.8	2792.162	103.39	104.6	2811.65	8.2	28.3	2784.50
8/21/2009	118.67	122.1	2798.651	53.42	54.8	2792.432	102.18	104.6	2812.86	7.66	28.3	2785.04
7/24/2009	114.13	122.1	2803.191	52.07	54.8	2793.782	100.41	104.6	2814.63	6.42	28.3	2786.28
6/29/2009	106.36	122.1	2810.961	50.73	54.8	2795.122	97.52	104.6	2817.52	4.75	28.3	2787.95
6/26/2009	105.24	122.1	2812.081	50.6	54.8	2795.252	97.24	104.6	2817.8	4.565	28.3	2788.14
5/27/2009	90.4	122.1	2826.921	45.62	54.8	2800.232	89.6	104.6	2825.44	2.65	28.3	2790.05
5/5/2009	91.68	122.1	2825.641	45.71	54.8	2800.142	88.15	104.6	2826.89	3.41	28.3	2789.29
5/1/2009	91.45	122.1	2825.871	44.56	54.8	2801.292	87.52	104.6	2827.52	3.44	28.3	2789.26
4/30/2009	91.55	122.1	2825.771	44.66	54.8	2801.192	87.81	104.6	2827.23	3.48	28.3	2789.22
4/24/2009	98.18	122.1	2819.141	45.37	54.8	2800.482	92.13	104.6	2822.91	4.59	28.3	2788.11
4/13/2009	112.87	122.1	2804.451	51.43	54.8	2794.422	100.24	104.6	2814.8	6.88	28.3	2785.82
2/20/2009	119.9	122.1	2797.421	53.69	54.8	2792.162	103.75	104.6	2811.29	8.2	28.3	2784.50
1/15/2009	120.4	122.1	2796.921	53.86	54.8	2791.992	104.11	104.6	2810.93	8.3	28.3	2784.40

Piezometer Num P2 Elev.				PM1 Elev.			PM2 Elev.			A8 Elev.		
G.S.= 2917.321				G.S.= 2845.852			2915.04			G.S.= 2792.7		
Date	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev
12/1/2008	120.61	122.1	2796.711	53.9	54.8	2791.952	104.07	104.6	2810.97	8.21	28.3	2784.49
10/30/2008	119.17	122.1	2798.151	53.87	54.8	2791.982	103.91	104.6	2811.13	8.18	28.3	2784.52
10/2/2008	117.9	122.1	2799.421	53.94	54.8	2791.912	104.6	104.6	2810.44	8.09	28.3	2784.61
8/8/2008	115.78	122.1	2801.541	53.12	54.8	2792.732	101.1	104.6	2813.94	6.97	28.3	2785.73
7/3/2008	105.4	122.1	2811.921	49.73	54.8	2796.122	97.49	104.6	2817.55	4.65	28.3	2788.05
6/3/2008	87.52	122.1	2829.801	48.36	54.8	2797.492	90.71	104.6	2824.33	2.93	28.3	2789.77
5/20/2008	90.49	122.1	2826.831	48.17	54.8	2797.682	88	104.6	2827.04	2.67	28.3	2790.03
5/16/2008	91.34	122.1	2825.981	46.45	54.8	2799.402	88.4	104.6	2826.64	3.88	28.3	2788.82
4/23/2008	114.42	122.1	2802.901	50.16	54.8	2795.692	101.1	104.6	2813.94	7.6	28.3	2785.10
3/10/2008	119.65	122.1	2797.671	51.47	54.8	2794.382	103.53	104.6	2811.51	8.4	28.3	2784.30
2/7/2008	120.1	122.1	2797.221	51.2	54.8	2794.652	103.8	104.6	2811.24	8.55	28.3	2784.15
12/26/2007	120.34	122.1	2796.981	51.52	54.8	2794.332	103.98	104.6	2811.06	8.52	28.3	2784.18
11/9/2007	121.3	122.1	2796.021	51.65	54.8	2794.202	104	104.6	2811.04	8.75	28.3	2783.95
9/27/2007	119.12	122.1	2798.201	51.75	54.8	2794.102	103.12	104.6	2811.92	7.22	28.3	2785.48
5/8/2007	107.64	122.1	2809.681	49.57	54.8	2796.282	96.18	104.6	2818.86	5.22	28.3	2787.48
11/14/2006	119.21	122.1	2798.111	51.88	54.8	2793.972	102.72	104.6	2812.32	7.96	28.3	2784.74
10/30/2006	119.48	122.1	2797.841	51.82	54.8	2794.032	103.69	104.6	2811.35	7.92	28.3	2784.78
8/16/2006	119.39	122.1	2797.931	51.72	54.8	2794.132	103.51	104.6	2811.53	7.72	28.3	2784.98
7/28/2006	119.14	122.1	2798.181	51.61	54.8	2794.242	103.32	104.6	2811.72	7.42	28.3	2785.28
6/21/2006	110.89	122.1	2806.431	51.23	54.8	2794.622	101.62	104.6	2813.42	6.18	28.3	2786.52
5/27/2006	109.78	122.1	2807.541	50.76	54.8	2795.092	98.92	104.6	2816.12	4.98	28.3	2787.72
4/7/2006	114.34	122.1	2802.981	51.14	54.8	2794.712	99.79	104.6	2815.25	4.96	28.3	2787.74
3/12/2006	119.52	122.1	2797.801	51.62	54.8	2794.232	103.39	104.6	2811.65	6.18	28.3	2786.52
2/24/2006	119.44	122.1	2797.881	51.95	54.8	2793.902	103.79	104.6	2811.25	7.92	28.3	2784.78
10/27/2005	119.41	122.1	2797.911	51.94	54.8	2793.912	103.76	104.6	2811.28	7.81	28.3	2784.89
9/10/2005	119.32	122.1	2798.001	51.84	54.8	2794.012	103.66	104.6	2811.38	7.76	28.3	2784.94
8/27/2005	119.3	122.1	2798.021	51.78	54.8	2794.072	103.14	104.6	2811.9	7.68	28.3	2785.02
7/14/2005	119.22	122.1	2798.101	51.74	54.8	2794.112	103.46	104.6	2811.58	7.28	28.3	2785.42
6/24/2005	112.79	122.1	2804.531	51.68	54.8	2794.172	103.29	104.6	2811.75	6.22	28.3	2786.48
5/29/2005	119.42	122.1	2797.901	50.92	54.8	2794.932	103.01	104.6	2812.03	5.91	28.3	2786.79

Piezometer Num P2 Elev.				PM1 Elev.			PM2 Elev.			A8 Elev.		
G.S.= 2917.321				G.S.= 2845.852			2915.04			G.S.= 2792.7		
Date	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev
4/10/2005	119.7	122.1	2797.621	51.72	54.8	2794.132	103.32	104.6	2811.72	5.42	28.3	2787.28
3/19/2005	119.82	122.1	2797.501	51.82	54.8	2794.032	103.49	104.6	2811.55	7.79	28.3	2784.91
2/13/2005	119.86	122.1	2797.461	51.87	54.8	2793.982	103.54	104.6	2811.5	7.86	28.3	2784.84
11/19/2004	119.9	122.1	2797.421	51.91	54.8	2793.942	103.59	104.6	2811.45	7.96	28.3	2784.74
10/17/2004	119.89	122.1	2797.431	51.84	54.8	2794.012	103.52	104.6	2811.52	7.91	28.3	2784.79
9/24/2004	119.91	122.1	2797.411	51.81	54.8	2794.042	103.49	104.6	2811.55	7.82	28.3	2784.88
8/17/2004	119.84	122.1	2797.481	51.79	54.8	2794.062	103.34	104.6	2811.7	7.79	28.3	2784.91
7/22/2004	119.21	122.1	2798.111	51.72	54.8	2794.132	103.29	104.6	2811.75	7.42	28.3	2785.28
6/18/2004	116.8	122.1	2800.521	50.69	54.8	2795.162	102.14	104.6	2812.9	7.01	28.3	2785.69
5/25/2004	115.14	122.1	2802.181	50.95	54.8	2794.902	101.34	104.6	2813.7	6.55	28.3	2786.15
3/19/2004	119.74	122.1	2797.581	51.68	54.8	2794.172	101.46	104.6	2813.58	7.8	28.3	2784.90
2/12/2004	119.45	122.1	2797.871	51.82	54.8	2794.032	103.52	104.6	2811.52	7.8	28.3	2784.90
12/10/2003	119.44	122.1	2797.881	51.86	54.8	2793.992	103.54	104.6	2811.5	7.91	28.3	2784.79
11/19/2003	119.72	122.1	2797.601	51.84	54.8	2794.012	103.59	104.6	2811.45	7.9	28.3	2784.80
10/21/2003	119.32	122.1	2798.001	51.84	54.8	2794.012	103.54	104.6	2811.5	7.94	28.3	2784.76
9/23/2003	119.51	122.1	2797.811	51.76	54.8	2794.092	103.49	104.6	2811.55	7.7	28.3	2785.00
8/26/2003	119.42	122.1	2797.901	51.62	54.8	2794.232	103.42	104.6	2811.62	7.68	28.3	2785.02
7/29/2003	119.16	122.1	2798.161	51.58	54.8	2794.272	103.38	104.6	2811.66	7.39	28.3	2785.31
6/14/2003	101.34	122.1	2815.981	50.62	54.8	2795.232	101.23	104.6	2813.81	6.22	28.3	2786.48
5/30/2003	103.62	122.1	2813.701	49.67	54.8	2796.182	94.67	104.6	2820.37	4.62	28.3	2788.08
4/28/2003	112.74	122.1	2804.581	50.02	54.8	2795.832	97.48	104.6	2817.56	3.41	28.3	2789.29
3/28/2003	119.62	122.1	2797.701	51.99	54.8	2793.862	102.91	104.6	2812.13	6.21	28.3	2786.49
2/24/2003	119.82	122.1	2797.501	52.74	54.8	2793.112	103.9	104.6	2811.14	7.62	28.3	2785.08
12/18/2002	119.34	122.1	2797.981	51.74	54.8	2794.112	103.36	104.6	2811.68	7.77	28.3	2784.93
9/30/2002	119.28	122.1	2798.041	51.55	54.8	2794.302	103.12	104.6	2811.92	7.22	28.3	2785.48
7/31/2002	111.72	122.1	2805.601	50.54	54.8	2795.312	98.87	104.6	2816.17	5.46	28.3	2787.24
6/28/2002	91.22	122.1	2826.101	48.82	54.8	2797.032	89.63	104.6	2825.41	2.62	28.3	2790.08

KDID Piezometers July 1, 2002 to October 29, 2010



KDID Piezometer P2

